

**translation**

PATENT COOPERATION TREATY

PCT/EP2003/004119



**PCT**

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000053469	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/004119	International filing date (day/month/year) 22 April 2003 (22.04.2003)	Priority date (day/month/year) 26 April 2002 (26.04.2002)
International Patent Classification (IPC) or national classification and IPC C08K 5/00		
Applicant BASF AKTIENGESELLSCHAFT		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>2</u> sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 06 November 2003 (06.11.2003)	Date of completion of this report 29 June 2004 (29.06.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/004119

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
pages 1-22, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages 1-11, filed with the letter of 07 May 2004 (07.05.2004)
- ☐ the drawings:  
pages 1/1, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.  
These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Intern application No.

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1-11	YES
	Claims		NO
Inventive step (IS)	Claims	1-11	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

**2. Citations and explanations**

Reference is made to the following documents:

D1: EP-A-0 381 125 (PPG INDUSTRIES INC)

D5: DATABASE CA [Online] CHEMICAL ABSTRACTS SERVICE,  
COLUMBUS, OHIO, US; MATSUDA, YUTAKA:  
"Manufacture of fire-resistant silane-  
crosslinked polyolefins" XP002262882, found in  
STN Database accession no. 131:88624

D6: EP-A-1 026 206 (SUMITOMO CHEMICAL CO)

The following documents were not cited in the  
international search report. Copies of the documents are  
appended.

D2: US 6411248 B

D3: US 4976889 A

D4: DD 1300884 A

**1. Novelty**

1.1 Independent claim 1 of the present application  
claims:

- a) stabilised thermoplastic PU, containing
- b) phenolic antioxidants and

- c) metal deactivators selected from..
- 1.2 Independent claim 6 of the present application claims
- a) a flat film conductor comprising
- b) thermoplastic PU.
- 1.4 Document D1 discloses a) stabilised PU compositions containing b) antioxidants based on alkali and earth-alkaline hypophosphates and alkali and earth-alkaline phenyl phosphonates in a quantity of 3.5 wt.% and b) metal deactivators of the EDTA type in a quantity of 1.0 wt.% (table 1, claims 1, 5, 7, 8, 10).
- 1.5 Document D3 discloses a) stabiliser compositions preferably for PU containing b) phenol-containing antioxidants and c) metal deactivators, which differ from those claimed, in a quantity of 0.01-5 wt.%; d) flameproof agents can also be used (column 5, line 16 - column 6, line 41).
- 1.6 Document D4 discloses a) flexible elastic heating elements consisting of b) strip conductors arranged in parallel and c) a PU soft foam layer in contrast to the claimed thermoplastic PU.
- 1.7 Document D5 discloses a) stabiliser compositions for polyolefins containing b) phenol-containing antioxidants (Irganox® 1010 and c) metal deactivators (ADK Stab CDA 1).
- 1.8 Document D6 discloses a) polyurethane compositions containing b) phenolic antioxidants and c) amide compounds; d) the use of metal deactivators is not mentioned.
- 1.9 The subject matter of the present claims 1-11 meets the requirements of PCT Article 33(2).

**2. Inventive step**

- 2.1 Document D3 is considered the closest prior art.
- 2.2 The difference between D3 and the present application is the use of the claimed special metal deactivators.
- 2.3 In the absence of a technical effect linked to the differentiating feature, the objective technical problem of interest consists in providing an alternative.
- 2.4 Since none of documents D1 and D3-D6 claims the claimed metal deactivators in conjunction with thermoplastic PU, it is not obvious for a person skilled in the art to use the latter for polyurethane.
- 2.5 Furthermore, none of the documents discloses the use of thermoplastic polyurethane for flat film conductors.
- 2.6 The subject matter of claims 1-11 therefore involves an inventive step (PCT Article 33(3)).

**3. Industrial applicability**

- 3.1 The subject matter of claims 1-11 is industrially applicable.

**4. Further observations**

- 4.1 The US application US6411248 (D2) published on 25 June 2002 discloses a) a material based on thermoplastic PU containing a); b) 2-10 wt.% (based on the total composition) of a metal deactivator or a combination of a metal deactivator and antioxidants; c) Irganox MD 1024 and Eastman inhibitors are used to this end, just as in the

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present application (column 2, lines 54-65; claims 1-4, 6-8, 11).

- 4.2 This application could be of relevance to novelty upon entry into the national/regional phase.